WHAT IS CLAIMED IS:

1. A liquid spraying apparatus in which a nozzle plate, which is provided at a portion of the wall surface of a spray tank which stores a liquid therein, and which has a row of nozzles made up of a plurality of nozzle holes through which a liquid is sprayed, is reciprocated so that the liquid inside the spray tank is pressurized and sprayed from said plurality of nozzle holes, comprising:

a bubble detecting means which, when said spray tank is filled with a liquid, detects whether or not residual bubbles exist inside said spray tank.

2. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by monitoring the internal portions of said spray tank by using a monitoring camera, at least one portion of said spray tank being formed from a transparent member.

3. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by detecting the change of the pressure when the liquid with which the internal space of said spray tank is filled is pressurized by a pressurizing actuator.

4. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by detecting the change of the propagation velocity of the pressure when the liquid with which the internal space of said spray tank is filled is pressurized by a pressurizing actuator.

5. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by detecting the change of the pressure when the liquid with which the internal space of said spray tank is filled is pressurized by driving the nozzle plate of said liquid spraying apparatus.

6. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by detecting the change of the propagation velocity of the pressure when the liquid with which the internal space of said spray tank is filled is pressurized by driving the nozzle plate of said liquid spraying apparatus.

7. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means has a pair of sealing plates each of which is disposed at the end portions of said spray tank in the

lengthwise direction thereof and is formed from a transparent member, and detects the existence of residual bubbles on the basis of a difference occurring between the amount of light transmitted and the amount of light received by a light receiving device caused by the path of said light being blocked by residual bubbles, when a laser beam is transmitted by a light emitting device through the liquid with which said spray tank is filled.

8. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means has a wave transmitting device and a wave receiving device, and detects the existence of residual bubbles on the basis of the change in the propagation time of pulse intervals by repeating the operation of transmitting ultrasonic pulses into the liquid with which the spray tank is filled by the wave transmitting device, driving the wave transmitting device by trigger pulses which are generated from the pulse waves which are received by the wave receiving device, and transmitting the ultrasonic pulses.

9. A liquid spraying apparatus according to claim 1, wherein said bubble detecting means detects the existence of residual bubbles by driving the liquid spraying apparatus so as to spray the liquid with which the spray tank is filled onto portions other than a photosensitive material, and the amount and status of the

liquid thus sprayed from the nozzle holes are thereby measured.

10. A liquid spraying apparatus in which a nozzle plate, which is provided at a portion of the wall surface of a spray tank which stores a liquid therein, and which has a row of nozzles made up of a plurality of nozzle holes through which a liquid is sprayed, is reciprocated so that the liquid inside said spray tank is pressurized and sprayed from the plurality of nozzle holes, comprising:

bubble detecting means which, when said spray tank is filled with a liquid, detects whether or not residual bubbles exist inside said spray tank; and

residual bubble prevention and control means which, when receiving a signal indicating that the existence of residual bubbles has been detected by said bubble detecting means, drains said residual bubbles.

11. A liquid spraying apparatus in which a nozzle plate, which is provided at a portion of the wall surface of a spray tank which stores a liquid therein, and which has a row of nozzles made up of a plurality of nozzle holes through which a liquid is sprayed, is reciprocated so that the liquid inside the spray tank is pressurized and sprayed from the plurality of nozzle holes, comprising:

bubble detecting means which, when said spray tank is filled with a liquid, detects whether or not residual bubbles exist inside the spray tank; and

residual bubble prevention and control means which, when receiving a signal indicating that the existence of residual bubbles has been detected by said bubble detecting means, carries out a control operation in which the liquid with which said spray tank is filled is drained, and said spray tank is refilled with a liquid.

12. A liquid spraying apparatus according to claim 10, wherein said residual bubble prevention and control means is a control operation which removes residual bubbles by decreasing the pressure of the liquid with which said spray tank is filled.

13. A liquid spraying apparatus according to claim 10, wherein said residual bubble prevention and control means is a control operation which removes residual bubbles by tilting the main body of said spray tank.

14. A liquid spraying apparatus according to claim 10, wherein said residual bubble prevention and control means is a control operation which removes the residual bubbles by stirring the liquid with which said spray tank is filled.

15. A liquid spraying tank according to claim 10, wherein said residual bubble prevention and control means is a warning device which is separately structured and which receives a signal indicating that the existence of residual bubbles has been detected by said bubble detecting means.

16. A liquid spraying tank according to claim 10, wherein said bubble detecting means detects the existence of residual bubbles by monitoring the internal portions of said spray tank by using a monitoring camera, at least one portion of said spray tank being formed from a transparent member.

17. A liquid spraying tank according to claim 11, wherein said bubble detecting means detects the existence of residual bubbles by monitoring the internal portions of said spray tank by using a monitoring camera, at least one portion of said spray tank being formed from a transparent member.